

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A device for stripping zinc sheets from cathodes, the device comprising:
- 5 a moveable base frame for moving the device along a floor;
- a cathode support frame, coupled to the moveable base frame, the cathode support frame being sized, shaped and positioned to support the cathodes during stripping;
- 10 a stripping assembly for stripping the zinc sheets from the cathodes, the stripping assembly being movably coupled to the base frame and being moveable relative to the cathode support frame to permit the stripping assembly to strip each cathode supported in the cathode support frame;
- at least one power source coupled to the base frame and operatively connected to the stripping assembly;
- 15 the stripping assembly including a lateral stripper, movable across the cathodes in the cathode support frame, for separating an upper edge of a zinc sheet from each of the cathodes, the lateral stripper being adapted to bias away from the cathode immediately upon entering between the zinc sheet and the cathode, and a scraping device, movable in a direction generally perpendicular
- 20 to a direction of the lateral piercer, for completing removal of the sheet from each said cathode.
2. The device of claim 1, the moveable base frame including a set of wheels, the wheels being positioned on the base frame so as to support the
- 25 base frame on the floor.
3. The device of claim 2, the set of wheels including at least two wheels which are connectable to a mobility power source for powering the at least two wheels.

4. The device of claim 1, the lateral stripper including a first stripper head corresponding to a first side of the cathode and a second stripper head corresponding to a second side of the cathode, the first stripper head being carried on a first stripper arm, the second stripper head being carried on a second stripper arm, the stripper including biasing elements positioned to bias the first and second stripper heads away from the cathode immediately upon the first and second stripper heads entering between the sheet and the cathode.

- 10 5. The device of claim 1, the stripping assembly further including a carriage assembly carrying the lateral stripper and the scraping device, the carriage assembly being movably coupled to the base frame, the carriage assembly being movable relative to the cathode support frame and relative to the floor so as to permit the lateral stripper and the scraping device to strip the cathodes
15 when the cathodes are on the cathode support frame.

6. The device of claim 5, the stripping assembly further including at least one carriage rail coupled to the base frame and extending along the cathode support frame, the at least one carriage rail carrying the carriage assembly.

- 20 7. The device of claim 1 further comprising a bottom-up stacker assembly coupled to the base frame and a sheet carrier for transporting the zinc sheets to the bottom-up stacker assembly, the sheet carrier being positioned so as to receive the zinc sheets after they are stripped, the bottom-up stacker assembly
25 being adapted to create a stack of the zinc sheets carried on the sheet carrier, the at least one power source being operatively connected to the bottom-up stacker assembly and the sheet carrier.

8. The device of claim 7, bottom-up the stacker assembly including a stack grasper comprising a pair of arms for grasping the stack, and a lifting
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mechanism, coupled to the base frame and to the pair of arms, for lifting the stack and placing it on the additional zinc sheet.

5 9. The device of claim 1 further comprising a stacker assembly coupled to the base frame and a sheet carrier for transporting the zinc sheets to the stacker assembly, the sheet carrier being positioned so as to receive the zinc sheets after they are stripped, the stacker assembly being adapted to create a stack of the zinc sheets carried on the sheet carrier, the stacker assembly including a stack rotator for rotating the stack in a plane generally parallel to the floor, the at least one power source being operatively connected to the stacker assembly, the sheet carrier and the stack rotator.

10 10. The device of claim 9, the stack rotator being adapted to rotate the stack approximately 180° about a vertical stacking axis.

15 11. The device of claim 10, the stack rotator including a stack grasper rotatably coupled to the base frame and positioned so as to be able to grasp the stack and rotate it in a plane generally parallel to the floor.

20 12. The device of claim 11, the stack grasper comprising a pair of arms, each of the arms having a hook portion for grasping the stack.

25 13. The device of claim 7, further comprising a stack removal station, the bottom-up stacker assembly including a stack grasper coupled to the base frame so as to be horizontally movable along the base frame, the stack removal station being positioned such that the stack grasper can move the stack from the bottom-up stacker assembly to the stack removal station, the device further including a scale, operatively coupled to the stack removal station, for sensing a weight of the stack.

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14. The device of claim 1, further comprising a stacker assembly coupled to the base frame and a sheet carrier for transporting the zinc sheets to the stacker assembly, the sheet carrier being positioned so as to receive the zinc sheets after they are stripped, the stacker assembly being adapted to create a
5 stack of the zinc sheets carried on the sheet carrier, the device further comprising a stack removal station, the stacker assembly including a stack grasper coupled to the base frame so as to be horizontally movable along the base frame, the stack removal station being positioned such that the stack grasper can move the stack from the stacker assembly to the stack removal
10 station, the stack removal station including a first lift truck access and a second lift truck access.

15. A device for stripping zinc sheets from cathodes, the device comprising:
a moveable base frame for moving the device along a floor;
15 a cathode support frame, coupled to the moveable base frame, the cathode support frame being sized, shaped and positioned to support the cathodes during stripping;
a stripping assembly for stripping the zinc sheets from the cathodes, the stripping assembly being movably coupled to the base frame and being
20 moveable relative to the cathode support frame to permit the stripping assembly to strip each cathode supported in the cathode support frame;
a bottom-up stacker assembly coupled to the base frame;
a sheet carrier for transporting the zinc sheets to the stacker assembly, the sheet carrier being positioned so as to receive the zinc sheets when they
25 are stripped, the stacker assembly being adapted to create a stack from the zinc sheets carried on the sheet carrier; and
at least one power source coupled to the base frame and operatively connected to the stripping assembly, to the sheet carrier and to the stacker assembly.

16. The device of claim 15, the bottom-up stacker assembly including a stack grasper and a lifting mechanism, the lifting mechanism being coupled to the base frame and the stack grasper, the lifting mechanism being adapted to lift the stack and place it on an additional zinc sheet transported to the bottom-up stacker assembly.

17. The device of claim 16, the stack grasper comprising a pair of arms, the arms each having a hook portion for grasping the stack.

18. The device of claim 15, the stripping assembly including a lateral stripper, movable across the cathodes in the cathode support frame, for separating an upper edge of a zinc sheet from each of the cathodes, the lateral stripper being adapted to bias away from the cathode immediately upon entering between the zinc sheet and the cathode, and a scraping device, movable in a direction generally perpendicular to a direction of the lateral piercer, for completing removal of the sheet from each said cathode.

19. The device of claim 18, the bottom-up stripping assembly further including a carriage assembly carrying the lateral stripper and the scraping device, the carriage assembly being movably coupled to the base frame, the carriage assembly being movable relative to the cathode support frame and relative to the floor so as to permit the lateral stripper and the scraping device to strip each cathode supported on the cathode support frame.

20. The device of claim 15, further comprising a stack removal station, the bottom-up stacker assembly including a stack grasper coupled to the base frame, the stack grasper being movable along the base frame in a direction generally parallel to the floor, the stack removal station being positioned such that the stack grasper can move the stack from the bottom-up stacker assembly, the stack removal station having a first lift truck access and a second

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lift truck access.

21. The device of claim 15, further comprising a stack removal station, the bottom-up stacker assembly including a stack grasper coupled to the base frame, the stack grasper being movable along the base frame in a direction generally parallel to the floor, the stack removal station being positioned such that the stack grasper can move the stack from the stacker assembly, the device further comprising a scale, operatively connected to the stack removal station, for sensing a weight of the stack.

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22. A device for stripping zinc sheets from cathodes, the device comprising:
a moveable base frame for moving the device along a floor;
a cathode support frame coupled to the base frame, the cathode support frame being sized, shaped and positioned to support the cathodes during stripping;

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a stripping assembly for stripping the zinc sheets from the cathodes, the stripping assembly being movably coupled to the base frame and being moveable relative to the cathode support frame to permit the stripping assembly to strip each cathode supported in the cathode support frame;

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at least one cathode cleaner, movably coupled to the base frame, the cathode cleaner being movable along the cathode support frame and along each said cathode so as to permit the cathode cleaner to clean each cathode supported on the cathode support frame; and

at least one power source coupled to the base frame and operatively connected to the stripping assembly.

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23. The device of claim 22, the stripping assembly including a lateral stripper, movable across the cathodes in the cathode support frame for separating an upper edge of a zinc sheet from each of the cathodes, the lateral stripper being adapted to bias away from the cathode immediately upon

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entering between the zinc sheet and the cathode, and a scraping device, movable in a direction generally perpendicular to a direction of the lateral stripper, for completing removal of the sheet from each said cathode, the cathode cleaner comprising at least one brush coupled to the scraping device, the at least one brush being positioned so as to clean each said cathode as each said zinc sheet is stripped therefrom.

24. The device of claim 23, the cathode cleaner comprising a first brush and a second brush, the first brush being coupled to the scraping device and positioned so as to clean one side of each said cathode, and the second brush being coupled to the scraping device and positioned so as to clean an opposite side of each said cathode.

25. The device of claim 24, the scraping device including a first scraping head corresponding to a first side of the cathode and a second scraping head corresponding to a second side of the cathode, the cathode cleaner comprising a first brush mounted to the first scraping head and a second brush mounted to the second scraping head.

26. The device of claim 13, the stack removal station comprising a platform, the scale being positioned below the platform such that the force of the stack on the platform is transmitted to the scale.

27. The device of claim 21, the stack removal station comprising a platform, the scale being positioned below the platform such that the force of the stack on the platform is transmitted to the scale.

28. The device of claim 14, the stack grasper being rotatably coupled to the base frame, such that the stack may be placed at the stack removal station in a first position to facilitate use of the first lift truck access, and such that the

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stack may be placed in a second position, angularly displaced from the first position, to facilitate use of the second lift truck access.

5 29. The device of claim 28, the first and second lift truck accesses each comprising a pair of hollows in said stack removal station for receiving the forks of a forked lift truck.

10 30. The device of claim 29, the first lift truck access and the second lift truck access being positioned generally at right angles to each other.

15 31. The device of claim 20, the stack grasper being rotatably coupled to the base frame, such that the stack may be placed at the stack removal station in a first position to facilitate use of the first lift truck access, and such that the stack may be placed in a second position, angularly displaced from the first position, to facilitate use of the second lift truck access.

20 32. The device of claim 31, the first and second lift truck accesses each comprising a pair of hollows in said stack removal station for receiving the forks of a forked lift truck.

25 33. The device of claim 32, the first lift truck access and the second lift truck access being positioned generally at right angles to each other.

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